

## PATENT SPECIFICATION



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## COMPLETE SPECIFICATION.

## Sliding Hood on Closed Vehicles.

I, HERMANN LANGE, Erlenbach (Zurich), Switzerland, of Swiss Nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

In the known sliding hoods for closed vehicles, such as motor cars, which can be opened by pushing together, it has been found, that the hood in the course of time is folded in irregular and too narrow folds, so that the edges of the folds easily become brittle. In order to tightly close the front and rear ends complicated means were necessary which were nevertheless not absolutely satisfactory. In the event of a strong pull being exerted in order to obtain a draught-free closure in closed position, it has been found that the hoops become twisted if locking devices are not arranged both inside and outside.

This invention relates to a sliding hood for closed vehicles by means of which these objections are overcome. This is attained according to the invention in that the hoops are interconnected by bands provided with resilient inserts and bearing in closed position against the guide bars, the ends of the guide bars extending gradually into the vehicle roof. Holding strips engaging under the ends of the hoops are fitted below the guide bars longitudinally of the roof aperture. The front and rear hoops are further provided with projecting cover plates which are supported on the hoops by supporting elements. Wire rods serving as carriers for the roof hood are mounted in the bands between the hoops.

An embodiment of the invention is illustrated by way of example in the accompanying drawings in which:

Fig. 1 is a top view of the hood roof, the covering material being partly removed.

Fig. 2 shows the hood partly in side elevation and partly in longitudinal section.

Fig. 3 shows the hood partly in rear elevation and partly in cross section.

Fig. 4 is a section on line I—I of

Fig. 1 on a larger scale.

Fig. 5 is a section on line II—II of Fig. 1.

Fig. 6 is a side elevation showing the sliding hood in open position, that is pushed towards the rear portion of the vehicle.

Fig. 7 shows on an enlarged scale an end position of a guide bar.

In the drawing 1 designates the roof of a closed motor car having a rectangular aperture 2 extending over almost the entire area. Guide bars 5 are fixed by means of screws 4 along the longitudinal side bars 3 of the aperture and project about half their height therefrom. The guide bars are channel-shaped and have inwardly bent longitudinal edges 5<sup>1</sup>. Guide elements 6 made of bend-leather have incisions 7 in which the edges 5<sup>1</sup> engage. The guide elements 6 are secured by means of bolts 8 to bars 9 of U-shaped cross section rigidly mounted on the hoops or transverse bars 11 by means of screws. The hoop bars 9 have lateral extensions 9<sup>1</sup> which project beyond the guide bars, and bent and resiliently supported so that their ends bear against the upper side of the roof 1. The hoop bars 9 are interconnected by bands 12 and carry thin steel spring inserts 13. The bands 12 are mounted between the guide elements 6 and the extensions 9<sup>1</sup> and held by the bolts 8. Inwardly projecting holding strips 14 are mounted on the under sides of the side bars 3 and project into recesses 11<sup>1</sup> in the ends of the hoops or engage under the hoops. On the front end and rear hoop bars 9 and cover plate 15, projecting towards the front and rear respectively, are fixed by means of bolts 16 and project a considerable distance beyond the ends of the aperture 2. On the front and rear sides of the front and rear hoops angle pieces 18 are fixed by screws 17, the horizontal arms of these angle pieces being rigidly connected to the cover plates by means of rivets 19 and serve as supports. Rubber strips 20 are mounted on the ends of the aperture to form a tight closure, and into these rubber strips the angle piece 18 are pressed when the adjacent bar bears tightly against the

strips. On the under side of the front or rear hoop catches 21 are arranged in which catches bows 23 rotatable on stretching levers 22 are suspended. The stretching levers 22 are pivotally mounted in the supports 24 which are fixed by means of screws 25 in the roof near the sides of the aperture 2.

The ends of the guide bars, which project about half their height from the roof or the longitudinal bars, are curved, inclined and gradually sunk therein, as shown in Fig. 7.

The hoop bars 9 are each made in several parts, preferably three, the two extreme parts having each an extension 9<sup>1</sup>. This arrangement of the hoop bars 9 permits the employment of standardized parts for hoops of different lengths, which always vary according to the width of the aperture 2 in the roof 1. Consequently, gaps 26 are produced between the adjacent ends of the hoop bar parts 9, larger or smaller according to the length of the hoops. Between the hoops transverse wire rods 27 are arranged, the ends of which are fixed in the bands 12. A waterproof sliding hood covering 28, preferably made of rubber material, extends over the hoops, extensions and cover plates. Bands 29 hang from the wire rods 27, and lining material 30 stretched over the hoop is sewn to these bands.

For the purpose of opening the sliding hood the bows 23 on the front or rear hoop must be disengaged and this hoop is then pushed towards the front or rear end of the aperture. The sliding hood can also be folded together towards the middle of the aperture 2. If the front or rear hoop is pushed towards the rear or front end of the aperture respectively, this hoop is lifted slightly together with the coordinate cover plate 15 owing to the peculiar structure of the ends of the guide bars 5, so that this plate does not scrape along the roof and damage the roof and the hood materials 28 and 30. The curved, gradually sinking ends of the guide bars 5 press the cover plates 15 against the roof 1 when the front and rear hoops are being slid into their extreme position, and thus ensure a reliable closure, so that draught, dust and rain are excluded. The resilient projections 9<sup>1</sup> of the hoop bars 9, which likewise bear on the roof, effect a good closure of the longitudinal sides of the aperture. The penetration of foreign substances is prevented owing to the holding of the guide bars 5 projecting above the roof and to the bands 12 provided with the inserts 13. The holding strips 14 also hold the hoops 11 in the proper position so that they cannot be pressed downwards and thus

prevent the extensions 9<sup>1</sup> from bending.

During the pushing together of the hoops 11 the bands 12, owing to the steel spring inserts 13, and consequently the hood materials 28 and bands 12 are folded in regular folds curved in upward direction. Consequently the hood material cannot be irregularly folded, clamped or pressed between the hoops.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1.—A sliding hood for closed vehicles, comprising in combination with the vehicle roof having an aperture, guide bars arranged along and projecting above the longitudinal sides of the aperture and gradually sinking towards their ends into the roof, hoops slidable on the guide bars, holding strips under the guide bars engaging under the hoops, bands interconnecting the hoops, spring inserts in the bands, cover plates projecting beyond the front and rear hoops, supporting elements on the front and rear hoops supporting the cover plates, wire rods in the bands between the hoops and hood material stretched over the hoops and supported by the rods.

2.—A sliding hood as specified in claim 1, comprising in combination with the bands and the hood material, thin steel band spring inserts in the bands adapted to lift and uniformly fold the material into curved folds during the opening of the hood and to press the hoops against the guide bars in closed position.

3.—A sliding hood as specified in claim 1, in which the supporting elements supporting the cover plates on the front and rear hoops are formed by angle pieces riveted on the front and rear sides of the front and rear hoops respectively.

4.—A sliding hood as specified in claim 1, in which the holding strips project under the guide bars into recesses in the ends of the hoops.

5.—A sliding hood as specified in claim 1, comprising in combination with the roof and the hoops, hoop bars of U-shaped cross section mounted on the hoops, and resilient laterally projecting extensions or the hoop bars bearing against the roof.

6.—A sliding hood as specified in claim 1, comprising in combination with the front and rear hoops, folding lever stretching locks on the underside of the hoops for stretching the hood without twisting the hoops.

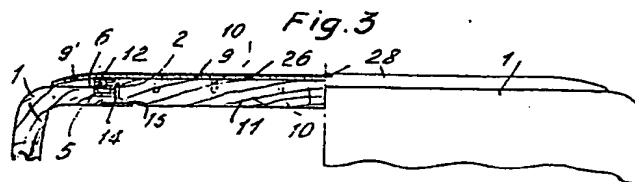
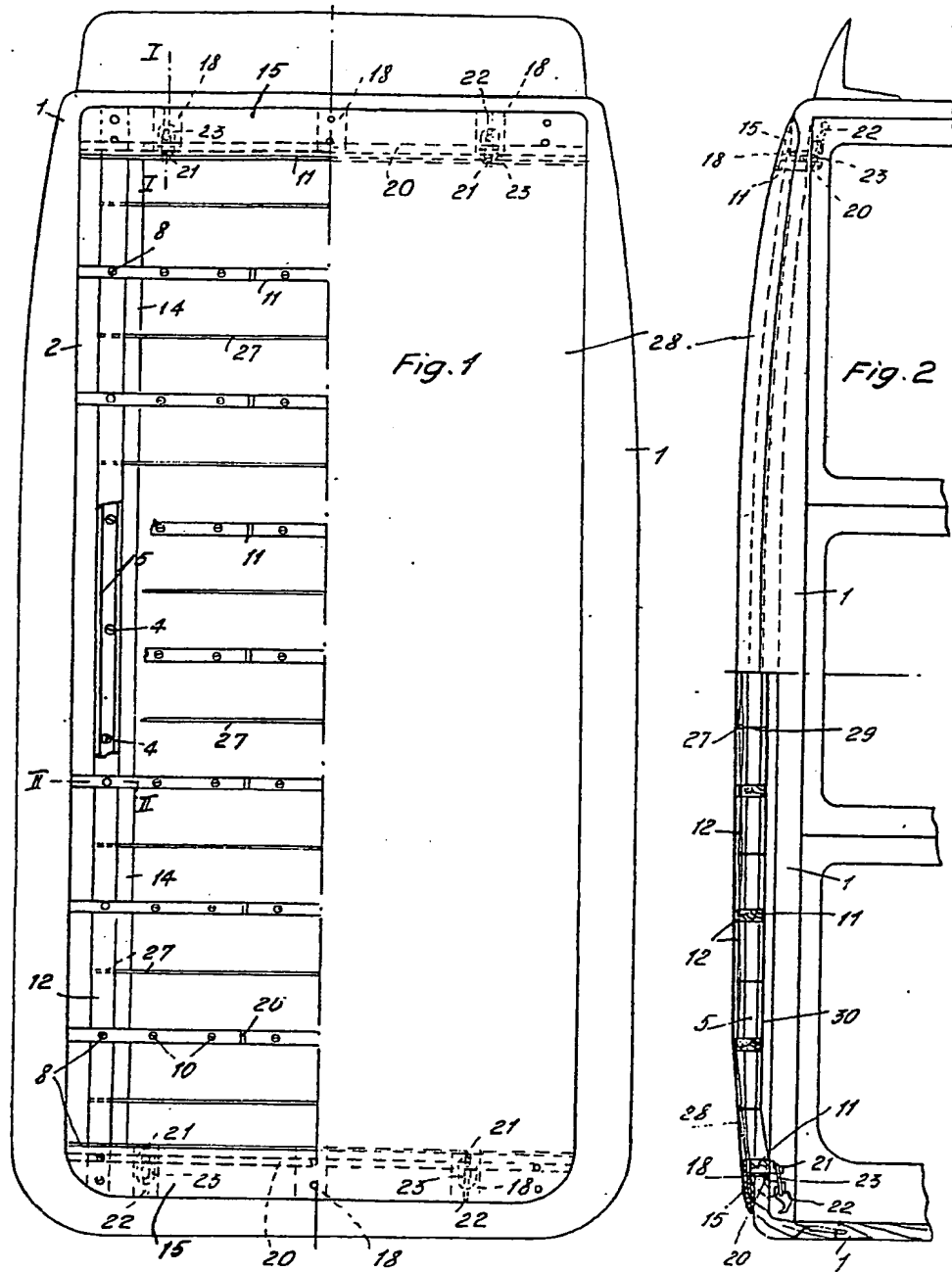
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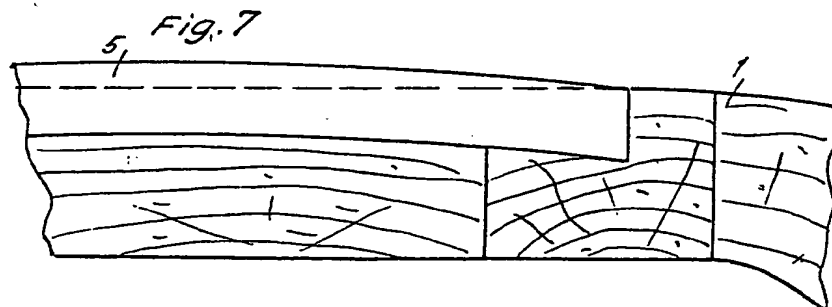
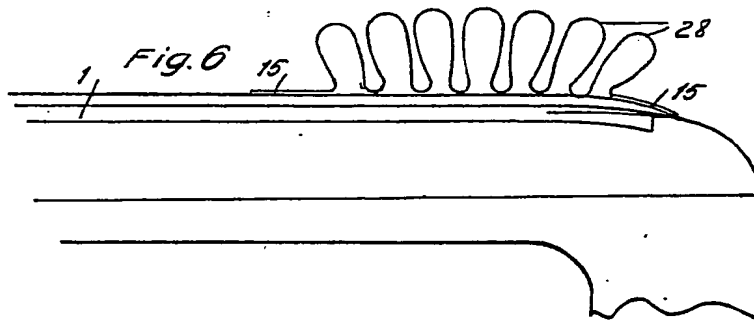
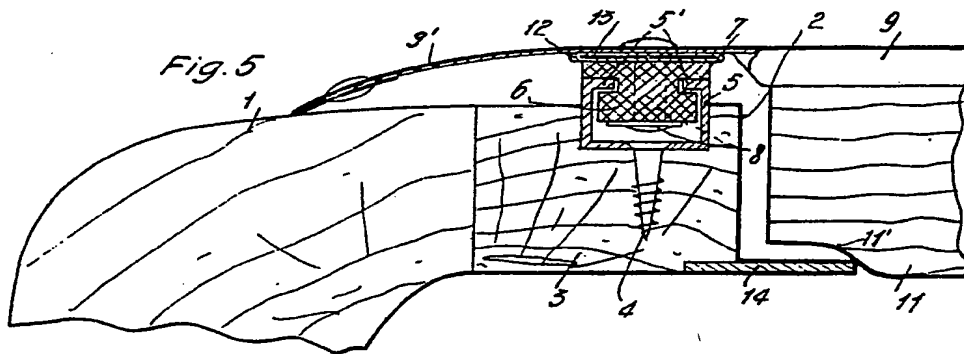
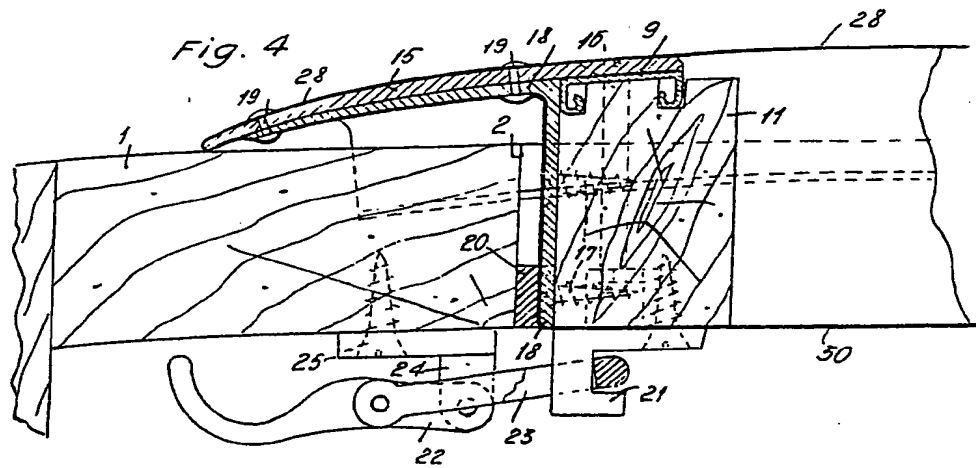
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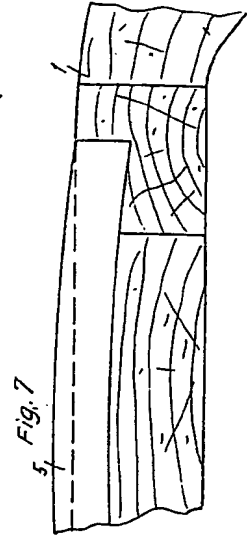
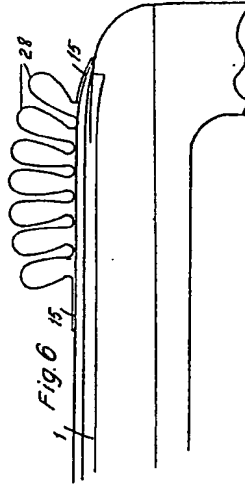
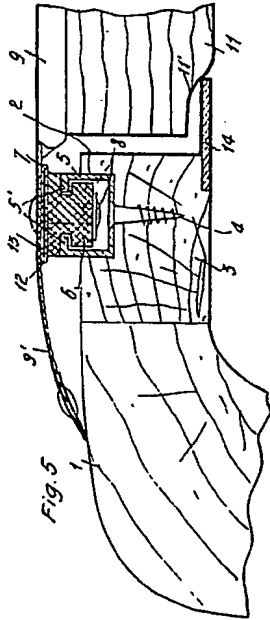
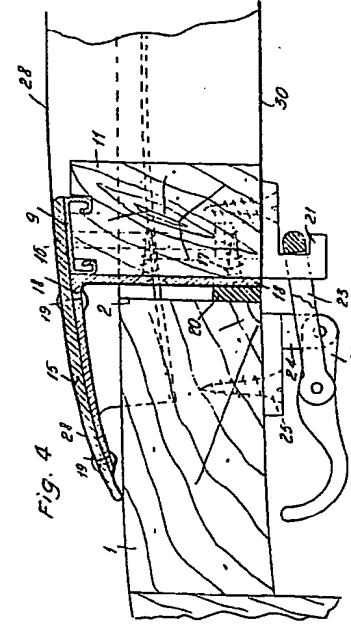
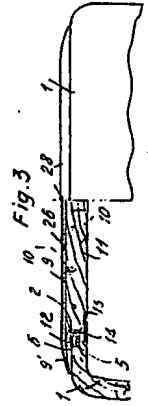
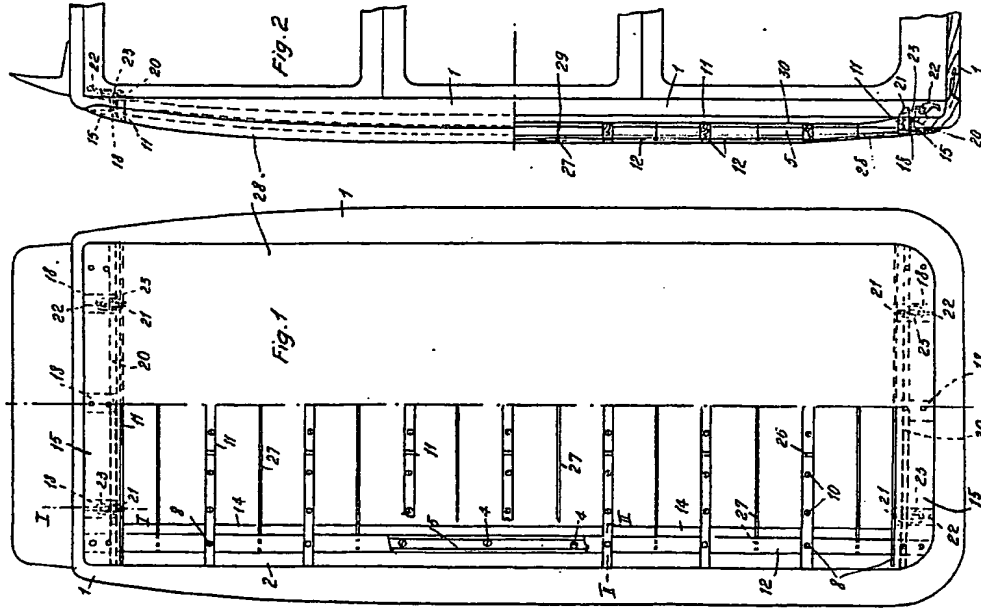
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